

EUROPEAN PATENT OFFICE

## **Patent Abstracts of Japan**

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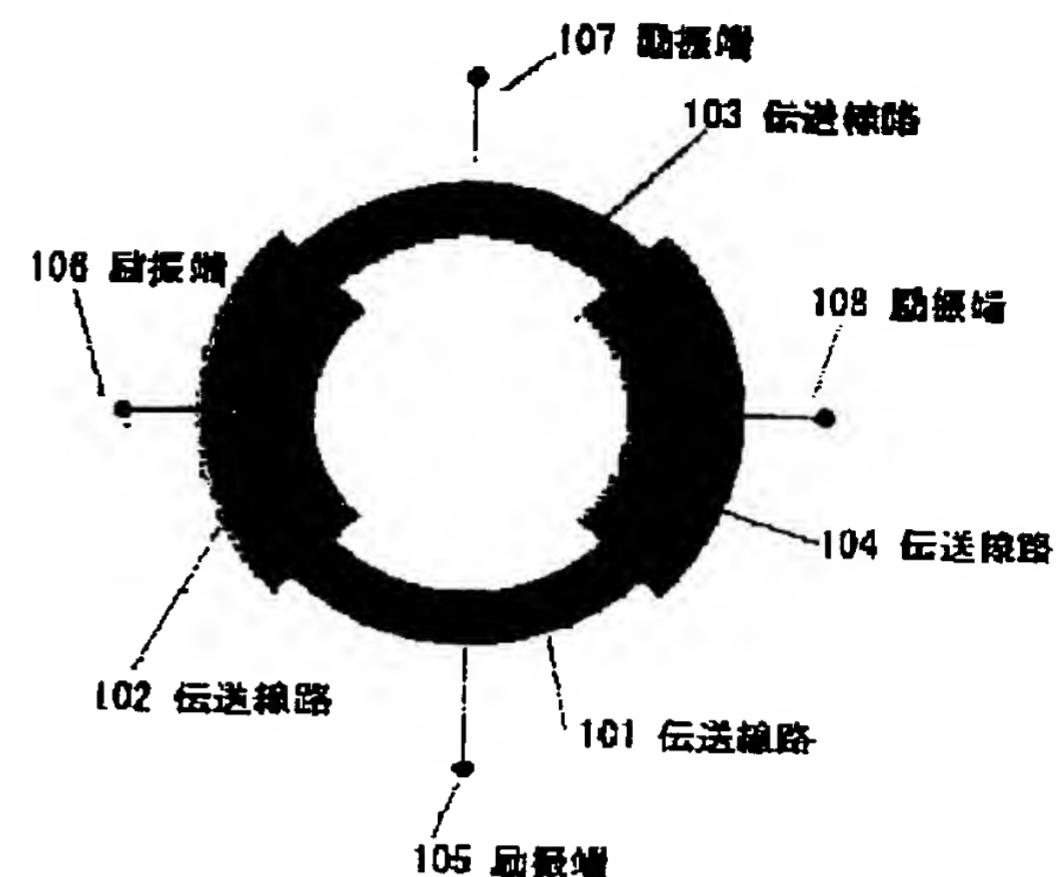
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**TITLE : DUAL MODE RESONATOR**



**ABSTRACT :** PROBLEM TO BE SOLVED: To provide a dual mode resonator configured to be small in size by using two filters with different center frequencies and a resonator at a high frequency band.

**SOLUTION:** Transmission lines 101-104 are connected in a ring form, a characteristic impedance and an electric length of the transmission line 101 are equalized with those of the transmission line 103, a characteristic impedance and an electric length of the transmission line 102 are equalized with those of the transmission line 104, the characteristic impedance of the transmission lines 101, 103 is selected different from that of the transmission lines 102, 104, and exciting terminals 105-108 of resonators are provided in each midpoint of the transmission lines 101-104, respectively. Thus, the resonance frequency excited between the exciting terminals 105 and 107 is made different from the resonance frequency excited between the exciting terminals 106 and 108 and the two resonance states are orthogonal to each other, then independent resonance is attained and the small-sized dual mode resonator is realized with two filters whose center frequencies differ from each other.

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